Application No. 10/580,333 Docket No.: AAO-0276

Amendment dated August 18, 2008

Reply to Office Action of April 17, 2008

AMENDMENTS TO THE CLAIMS

An electrolytic solution for use in an electrolytic capacitor, 1. (Currently Amended)

comprising a solvent and a solute, wherein water accounts for 20 from more than 80% to 100% by

weight of the solvent, the solute comprises selected from a carboxylic acid or a salt thereof and an

inorganic acid or a salt thereof, and further comprises one or more compounds selected from a nitro

compound, a nitroso compound or a salt thereof, a chelete forming compound or a salt thereof,

saccharides, a phosphoric acid compound or a derivative thereof, a water-soluble polymer and a

silane coupling agent alone or in combination, and the total solute content is from 1.5 to 44% by

weight, and in which the content of the carboxylic acid-based electrolytes is within a range from 0.5

to 35 % by weight, and wherein the electrolytic solution has a specific resistance at 30°C of 65Ω cm

or less.

2. (Cancelled)

The electrolytic solution for use in an electrolytic capacitor according 3. (Currently Amended)

to claim 1 or 2, wherein the content of water is from more than 75% by weight to 100% by weight

based on the solvent.

4. (Cancelled)

5. (Currently Amended) The electrolytic solution for use in an electrolytic capacitor according

to claim 1 or 2, wherein the content of water is from more than 90% by weight to 100% by weight

based on the solvent.

6. (Canceled)

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7. (Currently Amended) The electrolytic solution for use in an electrolytic capacitor according to claim 1 or 2, wherein the solvent comprises water and at least one organic solvent and the organic solvent is selected from the group of protonic organic solvents consisting of monohydric alcohols including methyl alcohol, ethyl alcohol, propyl alcohol and butyl alcohol, dihydric alcohols including ethylene glycol, diethylene glycol and triethylene glycol, and trihydric alcohols including glycerin, and the group of aprotic solvents consisting of γ -butyrolactone, propylene carbonate and sulfolane.

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- 8. (Currently Amended) The electrolytic solution for use in an electrolytic capacitor according to claim 1 or 2, wherein the total solute content is from 23.5 to 44% by weight.
- 9. (Currently Amended) The electrolytic solution for use in an electrolytic capacitor according to claim 1 or 2, wherein the total solute content is from 1.5 to 5% by weight.
- 10. (Currently Amended) The electrolytic solution for use in an electrolytic capacitor according to claim 1-2, wherein the carboxylic acid or salt thereof is selected from the group consisting of formic acid, acetic acid, propionic acid, butyric acid, salicylic acid, borodisalicylic acid, nitrobenzoic acid, dinitrobenzoic acid, hydroxybenzoic acid, oxalic acid, malonic acid, succinic acid, glutaric acid, adipic acid, fumaric acid, maleic acid, phthalic acid, azelaic acid, sebacic acid, citric acid and hydroxybutyric acid, and ammonium, sodium, potassium, amine and alkylammonium salts thereof, and is contained in the amount of 0.5 to 44% by weight based on the total amount of the electrolytic solution.
- 11. (Currently Amended) The electrolytic solution for use in an electrolytic capacitor according to claim 1-2, wherein the inorganic acid or salt thereof is selected from the group consisting of carbonic acid, hypophosphorous acid, phosphorous acid, phosphoric acid, boric acid and sulfamic acid, and ammonium, sodium, potassium, amine and alkylammonium salts thereof, and is contained in the amount of 1 to 20% by weight based on the total amount of the electrolytic solution.

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The electrolytic solution for use in an electrolytic capacitor according 12. (Currently Amended) to claim 1-2, wherein the water-soluble polymer is a synthetic or natural polymer having a molecular weight of 100 to 2,000,000.

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- 13. (Previously Presented) The electrolytic solution for use in an electrolytic capacitor according to claim 10, wherein the synthetic polymer is selected from the group consisting of polyacrylic acid, polymethacrylic acid, polyacrylamidepolyvinyl alcohol and polyethylene oxide, and a salt, an ester or a derivative thereof, and the natural polymer is polyalginic acid or poly γ-glutamic acid.
- 14. (Currently Amended) The electrolytic solution for use in an electrolytic capacitor according to claim 1-2, wherein the nitro compound is selected from the group consisting of nitrophenol, dinitrophenol, nitrobenzoic acid, dinitrobenzoic acid, trinitrobenzoic acid, nitroanisole, nitroacetophenone, aminonitrobenzoic acid, nitrosalicylic acid and nitroguanidine, and a salt or derivative thereof, and the nitroso compound is selected from the group consisting of nitrosobenzoic acid, nitrosonaphthol, nitrosophenol and copperon, and a salt or derivative thereof.
- 15. (Original) The electrolytic solution for use in an electrolytic capacitor according to claim 14, wherein the nitro compound and/or the nitroso compound is/are contained in the amount of 0.05 to 10% by weight based on the total amount of the electrolytic solution.
- 16. (Currently Amended) The electrolytic solution for use in an electrolytic capacitor according to claim 1-2, wherein the chelete forming compound is selected from the group consisting of ethylenediaminetetraacetic acid, trans-1,2-diaminocyclohexane-N,N,N',N'-tetraacetic acid monohydrate, dihydroxyethylglycine, ethylenediaminetetrakis(methylenesulfonic acid), diethylenetriamine-N,N,N',N"-N"-pentaacetic acid, citric acid, diaminopropanoltetraacetic acid, ethylenediaminediacetic acid, ethylenediamine-N,N'-bis(methylenesulfonic acid) 1/2 hydrate, glycol ether diaminetetraacetic acid and hydroxyethylethylenediaminetriacetic acid.

17. (Original) The electrolytic solution for use in an electrolytic capacitor according to claim 16, wherein the chelete forming compound is contained in the amount of 0.01 to 5% by weight based on

the total amount of the electrolytic solution.

18. (Previously Presented) The electrolytic solution for use in an electrolytic capacitor according

to claim 1-2, wherein the saccharides are selected from the group consisting of monosaccharides,

disaccharides, trisaccharides, polysaccharides, and a derivative thereof.

19. (Original) The electrolytic solution for use in an electrolytic capacitor according to claim 18,

wherein the saccharides are contained in the amount of 0.01 to 10% by weight based on the total

amount of the electrolytic solution.

20. (Currently Amended) An electrolytic capacitor comprising a capacitor element, a case

containing the capacitor element, and a sealant with which the case is sealed, the capacitor element

comprising a pair of electrode foils each comprising a dielectric, a separator for isolating the

electrode foils from each other, and an electrolytic solution filled between the electrode foils,

wherein the electrolytic solution is the electrolytic solution for use in an electrolytic capacitor

according to claim 1-or 2.

21. (Original) The electrolytic capacitor according to claim 20, wherein the separator of the

capacitor has a space in which ions are capable of migrating between the electrode foils even under

low temperature conditions, and has a density of 0.5 or less.

22. (Previously Presented) The electrolytic capacitor according to claim 20, wherein the

separator comprises fibers fixed with a binder soluble in the electrolytic solution.

23. (Previously Presented) The electrolytic capacitor according to claim 20, wherein the case is

made of a non-heat-treated aluminum having purity of 99.0% or higher.

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24. (Previously Presented) The electrolytic capacitor according to claim 20, wherein the case is

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made of an aluminum alloy containing manganese and/or magnesium.

25. (Previously Presented) The electrolytic capacitor according to claim 20, wherein the sealant

comprises a resin-vulcanized isoprene-isobutylene rubber or a peroxide-vulcanized isobutylene-

isoprene rubber.

26. (Previously Presented) The electrolytic capacitor according to claim 20, further comprising

external terminals of a copper or silver wire.

27. (Previously Presented) The electrolytic capacitor according to claim 20, which is used at a

temperature of -40°C or higher.

28. (Previously Presented) The electrolytic capacitor according to claim 20, which is used at a

temperature of -25°C or higher.

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